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(54) **Hearing aid fitting procedure and processing based on subjective space representation**

(57) A system for hearing assistance devices to assist hearing aid fitting applied to individual differences in hearing impairment. The system is also usable for assisting fitting and use of hearing assistance devices for listeners of music. The method uses a subjective space approach to reduce the dimensionality of the fitting prob-

lem and a non-linear regression technology to interpolate among hearing aid parameter settings. This listener-driven method provides not only a technique for preferred aid fitting, but also information on individual differences and the effects of gain compensation on different musical styles.

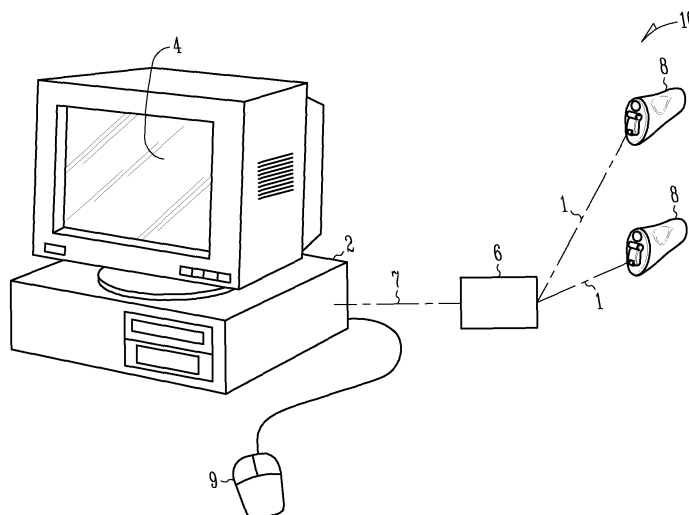


Fig. 1A



EUROPEAN SEARCH REPORT

Application Number
EP 08 16 3218

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y A	EP 1 194 005 A2 (BERNAFON AG [CH]) 3 April 2002 (2002-04-03) * paragraphs [0016], [0017]; figure 9 *	6,7,9, 14,15 8,13 1-5, 10-12,16	INV. H04R25/00
X Y A	US 2004/071304 A1 (YANZ JERRY L [US] ET AL) 15 April 2004 (2004-04-15) * the whole document *	6,7,15 8 1-5,16	
Y A	US 2007/076909 A1 (ROECK HANS-UELI [CH] ET AL) 5 April 2007 (2007-04-05) * paragraphs [0031], [0032] *	8 1-5,16	
Y	CARR J C ET AL: "RECONSTRUCTION AND REPRESENTATION OF 3D OBJECTS WITH RADIAL BASIS FUNCTIONS", COMPUTER GRAPHICS. SIGGRAPH 2001. CONFERENCE PROCEEDINGS. LOS ANGELES, CA, AUG. 12 - 17, 2001; [COMPUTER GRAPHICS PROCEEDINGS. SIGGRAPH], NEW YORK, NY : ACM, US, 12 August 2001 (2001-08-12), pages 67-76, XP001049875, ISBN: 978-1-58113-374-5 * the whole document *	13	TECHNICAL FIELDS SEARCHED (IPC) H04R
X	EP 0 917 398 A2 (SIEMENS AUDIOLOGISCHE TECHNIK [DE]) 19 May 1999 (1999-05-19) * the whole document *	6,7, 9-11,14	
E	DE 10 2007 046020 A1 (FRAUNHOFER GES FORSCHUNG [DE]) 9 April 2009 (2009-04-09) * the whole document *	1-16	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 22 February 2011	Examiner Borowski, Michael
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 16 3218

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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22-02-2011

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1194005	A2	03-04-2002	AT 456259 T	15-02-2010
			AU 784956 B2	10-08-2006
			AU 7611701 A	28-03-2002
			CA 2357683 A1	27-03-2002
			CH 694882 A5	15-08-2005
			DK 1194005 T3	25-05-2010
			US 2002044148 A1	18-04-2002

US 2004071304	A1	15-04-2004	US 2008187146 A1	07-08-2008

US 2007076909	A1	05-04-2007	NONE	

EP 0917398	A2	19-05-1999	DK 0917398 T3	03-09-2007
			US 6175635 B1	16-01-2001

DE 102007046020	A1	09-04-2009	NONE	
